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WEIGHT REDUCING DIETS

THOMAS H. MCGAVACK, M. D.
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DISCUSSION *by Roland Cummings, M. D., Los Angeles; W. D. Sansum, M. D., Santa Barbara; H. Lisser, M. D., and H. Clare Shepardson, M. D., San Francisco.*

IN the haze of methods commonly employed by the public for effecting a decrease in weight, the fundamental relationship existing between basal metabolism and nourishment intake has either often been overlooked or relegated to a very secondary place. The fact remains, as Jones [1] puts it, "Every form of obesity represents, in the last analysis, an increase of caloric intake over caloric output."

Proper exercise, helpful massage, glandular preparations, electric appliances—all undoubtedly occupy necessary places in the control of obese conditions. The caloric intake and its distribution continue to be, nevertheless, matters of extreme importance, not infrequently neglected by patient and physician alike. With this in mind, the writer suggests two diets which have been found both satisfactory to the patient and helpful to the clinician in instituting a successful regimen.

CHART I—DIET I

Morning—One cup (250 c. c.) coffee or tea with one tablespoon (15 c. c.) milk; one small slice (50 grams) or one and two-thirds ounces brown bread or one-half slice (30 grams) of white bread.

Forenoon—One small orange or one small apple or similar portion of other fresh fruit.

Noon—Two slices (250 grams or 8 ounces) roast meat; two portions (200 grams or 6 ounces) green vegetables boiled in salt; a little fruit; water.

Afternoon—One-half cup (125 c. c.) coffee with one tablespoon (15 c. c.) milk.

Evening—One slice (100 grams or 2½ x 3 x 1 inches) meat or a little chicken or fish; one portion (100 grams or 30 ounces) green vegetables; one-half slice of brown bread (25 grams or two-thirds ounce); one cup of tea, if desired.

Diet 1 (see Chart 1) is a modification of Umber's "Skeleton Diet." This yields approximately 900 calories, of which 365 calories is derived from carbohydrates, 360 calories from protein, and 175 calories from fat. The total caloric value is so low that any obese individual who follows it conscientiously will lose from two to five pounds within the first five days of treatment. Our first consideration in this diet has been the administration of an adequate, but not a superfluous amount of protein. The average American demands fifteen to sixteen grams of nitrogen for his daily needs, or, for example, between ninety and one hundred grams of protein food. We here have about ninety grams. Hunger is avoided by the "filling substances" present in the dietary and by the frequency with which food is taken. I have never had an individual who faithfully followed this chart complain of hunger. The five feeding periods should be strictly insisted upon, as frequent intake of even a small amount of nourishment relieves the "all-gone" sensation of which such people frequently complain, and simultaneously decreases the common tendency to overeat at the next regular meal. If coffee is not desired or advisable in the mid-afternoon, the tablespoonful of milk should, therefore, be taken just the same.

The usefulness of this diet apparently depends upon:

1. The low caloric value.
2. The adequate protein ration.
3. The specific dynamic effect of protein food.
4. The invariable loss of weight accompanying its use.

The diet is contraindicated in liver or gallbladder disease, in heart conditions (for any length of time), and in advanced arterial degenerative lesions.

After prescribing such a diet the physician should see the patient sufficiently often to make necessary changes in it. One or all of the following findings may warrant an alteration in the original regimen:

1. Excessive weight loss.
2. A rise in pulse rate above ten per minute.

3. A drop in blood pressure of more than ten millimeters of mercury.

4. The presence of acetone bodies in the urine.

5. The presence of distressing symptoms, such as dyspnea, sense of oppression through chest, palpitation, etc.

Inasmuch as the protein of the diet is already properly adjusted, and inasmuch as fat deficiency is to be made up from the body's own stores, any change to be made in the diet calls for carbohydrate foods. So, should one or more of the above contingencies arise, the patient is given a list, such as that shown in Chart 2, with instructions to add one of the one hundred calorie items, or more, therefrom to his daily ration.

CHART 2.—LIST OF ONE HUNDRED CALORIE FOODSTUFFS

(Each portion here listed is the equivalent of one hundred calories.)

80 grams or 2½ ounces roast beef; 200 grams or 6 ounces oysters.
40 grams or 1⅓ ounces white bread, graham bread or rye bread.
20 grams or two-thirds ounce zwieback.
12½ grams or one-half ounce butter.
20 grams or two-thirds ounce swiss cheese.
25 grams or 1 ounce sugar.
100 grams or 3 ounces potatoes.
30 grams or 1 ounce rice, peas, beans, or buckwheat.
20 grams or two-thirds ounce flour.
200 grams or 6 ounces apples.
150 grams or 5 ounces apple sauce.
150 cubic centimeters or 5 ounces milk.
30 cubic centimeters or 1 ounce brandy or whisky.

It is sometimes wise to stress the avoidance of certain fat foods. Patients will in all innocence eat various forms of cheese, olives, fat fish, duck, goose, etc., thinking they are carrying out instructions to the letter. The appended list is a useful reminder. (See Chart 3.)

CHART 3.—LIST OF FAT FOODS

Cream, butter, most forms of cheese, oils, olives, chocolate, cocoa, nuts, potato chips, crullers, and doughnuts. Articles cooked in fats, yolk of egg, bacon and meat fats, fat fish and game.

The fattest meats are pork (including ham and sausage), salt pork, bacon, mutton chops, duck, goose, pate de fois gras, marrow and corned beef.

The fattest fish are butterfish, catfish, eels, salmon, shad, trout, turbot, and fish canned in oil.

The second diet to be mentioned (see Chart 4) obviates the necessity for careful weighing or measuring, makes no "between meal" demands, and is more readily obtainable by the business man or woman. I find it especially valuable where gall-bladder and liver conditions are met, in conjunction with overweight. I know of no medical contraindications to its exhibition. This diet is so arranged that fruits are segregated from other starches, and that large quantities of starch are not taken in conjunction with the meat meal. The fruit breakfast eliminates the "mild jag," so common in America, which results from the mixture of fruit, cereals, toast, and eggs. The carbohydrate value of the diet is made up at the lunch hour, and the protein fraction completed in the evening meal, in conjunction with which an abundance of green vegetables and five and ten per cent fruits are allowable. The overweight individual with a host of digestive disorders will find himself materially benefited even by a short period of adherence to this dietary. Owing to the division of the day's rations into a fruit, a starch and a protein meal, specific limitation of amount is rarely necessary, but is easily carried out by placing a definite figure after every item mentioned in Chart 4.

CHART 4.—DIET 2

GENERAL PRINCIPLES:

Never Eat Hurriedly.—Chew food thoroughly. It is less harmful to omit the meal entirely than to eat rapidly, thus preventing the digestive juices from being properly secreted. A small amount, thoroughly chewed, satisfies more completely than three times the amount taken rapidly.

Eat Less of Fat and Starchy Foods.—It may be difficult to break the habit of starch and sugar eating, because improperly eating these foods generates alcohol in the digestive tract, giving a quiet "jag." Eat no pastries, and no fried food.

There should be a keen desire for food, so that even the thought of a dry crust makes the mouth water. At first you will crave food when there is a "faint" or "all-gone" feeling at the pit of the stomach, without knowing just what food you would like to have. This is not real hunger. Learn to *taste* foods and a much smaller amount will satisfy.

* * *

PART A—MENU

Morning Meal—One or two oranges (or juice); glass of milk or buttermilk (sipped); cup of cereal, coffee, kaffee hag, postum, etc., or cup of cambric tea in place of milk or buttermilk. (Formula for cambric tea: Hot milk, one part; hot water, three parts. A little honey or brown sugar, if desired.) No real coffee or tea.

Noon Meal—One concentrated starchy food (see food chart); one or two cooked vegetables; one raw vegetable; moderate amount of dairy (fresh) butter or oil (on salad); bread, as desired.

Evening Meal—Meat or substitute for meat (no red meat, no fried meat); salad of either uncooked fruits or raw vegetables. One or two cooked non-starchy vegetables.

PART B—FOOD CHART

Concentrated starchy foods:

Sweet potatoes	Indian corn
Artichokes	Rice
Dried beans (all kinds)	Dried peas
Cereals or any product made from whole grain and wheat	Yams
Peanuts	Barley
White potatoes	Oats
Bread (graham or whole wheat)	Rye
Lentils	Buckwheat

Uncooked fruits and raw vegetables:

Cabbage	Apricots
Cucumbers (fresh)	Onions
Peppers (sweet)	Tomatoes
Watercress	Grapefruit
Blackberries	Mulberries
Gooseberries	Prunes
Lemons	Dates
Nectarines	Cranberries
Plums (some varieties)	Loganberries
Tangarines	Pineapple
Carrots (grated)	Strawberries
Parsley	Grapes
Cherries	Huckleberries
Peaches	Celery
Persimmons	Radishes
Figs (dried)	Apples
Limes	Pears
Oranges	Raisins
Raspberries	

Cooked non-starchy vegetables:

Beet-tops	Cauliflower
Carrots	Green corn
Egg plant (do not fry)	Onions
Peas (fresh)	Squash
Asparagus	Spinach
Beans (green)	Turnip
Celery	Swiss chard
Okra	Brussels sprouts
Pumpkin	Tomatoes
Beets	Rhubarb

Meat and meat substitutes:

Cottage cheese	Eggs
Sea food	Dried peas
Game	Whole wheat products

Desserts—Not recommended. If used, take in moderate quantities and remain within limits of following:

Raisin bread made with whole wheat flour is cake enough for any normal, unspoiled appetite; this should be eaten in combinations given for bread.

Any of the fresh fruits or dried fruits may be taken with the night or "meat meal," preferably not sweetened. You should use honey or brown sugar or maple sugar. Custard and junket may be added to a meal of fruit and dairy products, provided they have been made with honey, maple sugar, or brown sugar.

These two diets afford the general practitioner a successful office routine for handling his overweight patients, provided the patient's confidence in him outweighs the urge of appetite and whim; for, the physician who attempts the handling of such people must never forget the all-important query put to rhyme by Owen Meredith:

"We may live without books, what is knowledge but grieving,
We may live without hope, what is hope but deceiving,
We may live without love, what is passion but pining,
But where is the man who can live without dining?"

450 Sutter Street.

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DISCUSSION

ROLAND CUMMINGS, M. D. (523 West Sixth Street, Los Angeles).—The subject of obesity is being clarified. I agree with Doctor McGavack that to lose weight it is necessary to have the inflow of energy less than the outgo. That is a simple statement, but many times is a thing that is accomplished with great difficulty.

The reduction of the hypothyroid type of obesity and the reduction of the obesity of hypernutrition are very simple problems, but the reduction of the common type of obesity, the girdle type—or so-called "pituitary obesity"—is very difficult. Pituitary obesity is improperly named, because beyond a reasonable doubt this is not pituitary obesity at all. This type of obesity is probably due to a disturbance of the portion of the brain situated between the third ventricle and the pituitary gland. So far as I know, nobody understands why a disturbance in that region produces this obesity or anything specific to do for it. Why is it, in a patient who has this type of obesity, that the skin about the girdle, when grafted on the back of the hand, will become obese in that area so that there will be obesity of the back of the hand?

Many of these patients with this type of obesity will not lose in weight on a diet of one thousand calories. I am satisfied that many of them will not lose in weight unless their diet is below five hundred calories a day, and then they lose the weight from all over the body in the same proportion as they do from the hips. They will become emaciated about the chest and neck while they are still obese about the hips. To me, this type is the big problem in obesity and until we learn more as to its specific cause I fear we will not be able to treat it very satisfactorily.

It seems to me the ideal dietary principle to use in obesity after one finds out the maximum amount of calories an individual can be permitted to take, is to build up a diet that contains about 25 per cent more proteid than is necessary for nitrogen balance, the remainder of the calories being carbohydrates as far as possible, placing only enough fat in the diet to make it palatable, as the object is to get the patient to eat his own fat.

In general, I would agree with Doctor McGavack's ideas and I think he has quite simplified the matter, which is a very important thing in the treatment of obese patients. The frequent feeding is a splendid point, as such a great percentage of the patients who cannot lose unless their diets are under five hundred calories feel so weak and faint when they are cut down to that amount that they won't stick to a diet, but by taking very small amounts frequently, they will come nearer to living on a diet that is low in calories than in any other way.

W. D. SANSUM, M. D. (317 West Pueblo, Santa Barbara).—The reducing diets which we use are also fairly high in calories. They contain more carbohydrate and less fat. The following formulas individualized for each patient are most frequently used:

800 calories—	C-90	P-65	F-20
1000 calories—	C-125	P-70	F-25
1200 calories—	C-160	P-75	F-30

The eight hundred calorie diet is used only in the beginning or when patients must necessarily remain in bed. On leaving the hospital we rarely ever use a diet lower than one thousand calories.

We agree that an adequate amount of protein is essential, but calculate it according to individual requirement, using one gram per kilogram of the average of actual and ideal weight. We have had patients gain in weight while taking an eight hundred calorie diet containing forty or less grams of protein and had them lose satisfactorily in weight on a one thousand calorie diet containing adequate protein. Patients very frequently gain in weight while starving and while taking diets as low as 250 to 500 calories. We believe

that this gain in weight is due to an increase in the water content of the body incident to the protein starvation.

We have never observed any ill effects from the mixing of carbohydrates, protein, and fats in the same meal. Very little sugar as such can be used on these limited diets, which applies also to honey, brown sugar and maple sugar of nearly equal caloric value. We use real coffee and tea.

We find that when patients fully understand that life is shortened by overweight they are much more willing to coöperate than when they center their attention only on the problem of good looks. We therefore acquaint them with the dangers of overweight, which are summed up as follows:

Prominent life insurance companies have collected some comprehensive statistical studies which demonstrate the risk of obesity from an insurance viewpoint. These show that for each pound a person is over or underweight the expectancy of life is decreased by one per cent. For example, a woman forty years of age, five feet six inches tall, should weigh 138 pounds dressed. Her expectancy of life should be twenty-eight years. If, however, at this age she weighs 188 pounds, that is fifty pounds overweight, she can expect to live only fourteen years longer. Instead of living to be sixty-eight years of age she can expect to live to be only fifty-four years of age. Life is shortened by obesity probably because of the many diseases which accompany it. Some of these are:

1. Enlargement of the heart. The heart must enlarge to carry the burden of excessive weight.

2. Increased blood pressure. Each pound of excess weight requires approximately one extra mile of small blood vessels. Increased pressure is necessary to carry the blood through this extra network of blood vessels. As the blood pressure rises, further enlargement of the heart is necessary to perform the additional work required.

3. Predilection to diabetes. Overweight is so commonly followed by or associated with diabetes that leading authorities consider it to be one of the most important factors in the cause of this serious disease.

4. Lowered general body resistance. The general body resistance is usually lowered in the presence of overweight so that obese people are always more susceptible to such common diseases as pneumonia, and when such diseases appear the prognosis is always more grave than in the presence of normal weight.

5. Increased surgical risk. Surgical conditions such as gall-stones occur more frequently in overweight persons. If surgery becomes necessary in obese individuals the surgical risk is thereby increased so much that surgeons hesitate to perform operations.

❦

H. LISSER, M. D., AND H. CLARE SHEPARDSON, M. D. (204 Fitzhugh Building, San Francisco).—As we have stated before on more than one occasion, "there is no royal road to reduction," whether it be by such common-sense diets as Doctor McGavack finds satisfactory or by any one of the never-ceasing weird diet cures, a new one of which has its vogue for a few months every year or so. Included in this sweeping statement are other fads as, "losing in the bathtub" by some miraculous salt; victrola cures, roller cures, or gland cures.

We thoroughly endorse the points brought out by Doctor Cummings in his discussion. Our experience substantiates his contention that a goodly number of obese individuals require severely subcaloric diets to effect even a moderate weight loss. To many who cling to the law of the conservation of energy, such a statement seems incomprehensible. Nevertheless, we insist that this holds true, at least in a respectable minority, at the same time admitting that we can offer no explanation for the metabolic abnormality responsible for this queer state of affairs. In this connection the experience of Mason at McGill University may be referred to, who found it necessary in certain instances to restrict the caloric intake to the pitifully low ration of 250 to 300 calories per day, and offered the suggestion that the underlying disturbance was probably an alteration in the specific dynamic response to protein, fat, or carbohydrate.

A basal metabolism estimation at the outset, and preferably more than one, should be a routine procedure before instituting any variety of reduction therapy. Although the majority of obese persons will be found to have a normal rate, a surprisingly large percentage will fall in the range of 8 to 25 per cent minus, and many of these patients would not be suspected of hypothyroidism either from symptoms or appearance. The proper use of glandular therapy in such patients is obviously indicated and highly beneficial; nor should organotherapy be restricted to those obese persons who have a subnormal basal rate. It is hardly necessary to add, however, that all patients undergoing a reduction regimen, whether it be by diet alone or with the addition of glandular therapy, require frequent observation and control.

From a practical standpoint the most important facts in planning a diet designed to assist in reduction of weight are simplicity and adequacy. The condition is, after all, a chronic one, rarely, if ever, cured. Therefore there is little justification in diets which are so radical that they cannot be continued over a long period of time. Very few obese individuals will "count the calories" year in and year out. To this extent they differ from the diabetic patient, who must do so to preserve life and health.

Doctor McGavack is to be commended for calling attention to this important subject, and his diets have the merit of simplicity and adequacy. Our experience would lead us to forecast that these diets will prove satisfactory in 40 to 60 per cent of cases.

❦

DOCTOR MCGAVACK (Closing).—One is frequently confronted by the overweight individual with such expressions as these: "I am sick of weighing my diet"; "I just cannot stay on any diet without being unendurably hungry"; "Wouldn't it be all right for me to try one of the advertised reducing foods?" and so forth. Therefore it has been my desire to present here diets for obesity in a form easily applicable by the physician and reasonably pleasing to the patient. As Doctors Lisser and Shepardson have well said, "there is no royal road to reduction"—no possibility of legerdemain transformation, as it were. However, if the physician is to steer his patients away from every new fad and fancy, he must be in a position to present measures aimed at a correction of the primarily abnormal relationship between intake and outgo of energy.

Undoubtedly, the whole subject of overweight and its treatment is a highly specialized field of importance, but it is not always practicable to place the patient in the hands of one especially trained. With ordinary diagnostic acumen, hypernutritional, hypothyroid, and "girdle" types of obesity may be differentiated. Needless to say, proper organotherapy should be instituted, and in hypothyroid cases that alone is usually sufficient to correct the overweight. In the hypernutritional type, diet alone may be sufficient, though I heartily agree with Doctors Lisser and Shepardson that here, too, organotherapy, properly controlled, is a useful adjunct.

In the "girdle" type of obesity, I have found—in a very limited experience—that immediate weight decrease is the rule from the exhibition of Diet 1. Usually this initial loss is regained, until, at the end of from ten to sixteen days, the weight may have returned to the original figure. Newburgh and Johnston have recently discussed this subject at some length. They have shown that the water retention periods are followed by weight losses commensurate with the degree to which the diet is below the required caloric

value. Therefore, if the patient has been seen during the period of temporary weight decrease, much has been done to gain her confidence, and the physician may be able to proceed in such a manner as to prevent her falling prey to every "fat cure" marketed.

What Doctor Cummings has said relative to the "girdle" or "pituitary" type of obesity, I fully endorse as too often true. In this connection it is well to remind ourselves that the very marked reductions of caloric intake utilized by Mason in his series of experiments resulted in comparatively great reductions in weight, the lowest figure recorded in the least obese of his subjects being forty-four pounds for an experimental period of sixty-three days.

Doctor Sansum's emphasis upon the ill effects of obesity serve as an invaluable aid in enlisting the enthusiastic coöperation of the patient. Such practical points cannot be overstressed, as they strike deeply into his or her consciousness and, in many instances, prove a greater incentive for reducing than the desire for a good cosmetic result.

Many moot and problematical points might be dwelt upon in connection with any dissertation upon nutritional disturbances. These have been studiously avoided by the writer as well as by those who have been kind enough to comment upon the simple diets above suggested. Rather have the latter added much to the clarity and practicality of the subject by stressing such points as the need for proper laboratory procedures before the institution of therapy, the importance of a clear understanding of his condition on the part of the patient, the value of frequent observation of the individual while under treatment, and the usefulness of proper adjunct therapy.

AN AID IN COLLECTIONS

By JOHN HUNT SHEPHARD, M. D.
San Jose

IN these days many physicians are experiencing the unpleasant sensation of seeing their bills receivable mounting to unprecedented heights. Suggestion which will check the speed of their ascent, therefore, will be welcomed.

Some months ago we became interested in the installment payment system used by a department store, and worked out the forms herewith shown. The form on one side of the white card is an innocent-looking acknowledgment of indebtedness, though in reality it is a promissory note. The ledger ruling on the reverse side serves as a convenient ledger account, but the payments are also posted in our regular ledger. The salmon-colored card is of very durable quality, and is retained by the patient. It is presented with each payment for credit, thus constantly keeping the holder informed of the amount of the unpaid balance, and it acts as a permanent reminder of his obligation.

These forms are presented for signature at the time of dismissal of the patients, when their gratitude for services received is at its maximum. No attempt is made to crowd up the amount of the monthly payment, but rather an amount slightly

I hereby acknowledge my indebtedness to Dr. ....., for professional services rendered ....., in the amount of $....., and I promise and agree to pay the same to Dr. ..... (a) on or before ..... (b) in monthly installments of $..... each, beginning on the ..... day of ....., and to pay a like amount on the ..... day of each and every successive month until the entire sum of $..... is paid.

Date.....

.....
Name

.....
Address

Chart 1.—Showing the text on the white card which is signed by the patient or person responsible for the account, and retained in the office. Printed on both sides.

DR. _____

_____

Received the following payments from

_____

_____

Date	Amount Paid	Balance Due	By

Chart 2.—Memorandum slip for accounts.